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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,360	05/24/2007	Yasushi Sato	082420-000600US	5064

20350   7590   04/28/2011
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EXAMINER
GODBOLD, DOUGLAS

ART UNIT	PAPER NUMBER
2626	

NOTIFICATION DATE	DELIVERY MODE
04/28/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 March 2011</u>.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,19,29,31,39,40,48,49,57-59,61,64-71,73 and 76-81* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,19,29,31,39,40,48,49,57-59,61,64-71,73 and 76-81* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to correspondence filed March 08, 2011 in

reference to application 10/584,360. Claims 1-10, 19, 29, 31, 39, 40, 48, 49, 57-59, 61,

64-71, 73, and 76-81 are pending and have been examined.

Response to Amendment

2.   The amendment filed March 08, 2011 has been accepted and considered in this

office action. Claims 1, 58, 64, 65, 67, 70, 71, 73, 76-81 have been amended.

Response to Arguments

3.   Applicant's arguments with respect to claims 1-10, 19, 29, 31, 39, 40, 48, 49, 57-

59, 61, 64-71, 73, and 76-81 have been considered but are moot in view of the new

ground(s) of rejection.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 4-10, 19, 29, 31, 39, 40, 48, 49, and 57-59, 61, 64-71, 73, and 76-81

are rejected under 35 U.S.C. 103(a) as being unpatentable over Funk et al. (US PAP

2003/0065427) in view of Kennewick et al. (US PAP 2004/0193420) and further in view

of Kawasaki et al. (US Patent 6,076,061).

3.   Consider claim 1, Funk teaches a device control device (abstract) comprising:

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

process execution means which specifies a content of control to be performed on

an external device to be a control target based on the specified content, and performs

the control (paragraphs 0019-0020, verbal command keywords result is the mobile unit

performing different operations, such as retrieving information or controlling radio

functions).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means;

A database which stores preceding controls and subsequent controls, each of

which is associated with one another;

And the processing means performs control based on a currently executed

control.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

A database which stores preceding controls and subsequent controls, each of which is associated with one another (0143, system stores user profile data which includes history of commands and queries and dialog history 0160. This constitutes preceding controls. These are used to provide context to a current command and are therefore associated with them (0161));

And the processing means performs control based on a currently executed control (commands to be executed are determined based on context information 0161).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

Funk and Kennewick do not specifically teach that the speech recognition means specifies word candidates and calculates a likelihood of each candidate,

That the specifying means specifies based on the likelihoods

That the database stores weighting factors,

And that the process execution means uses the weighting factors, and

wherein the process execution means, among the subsequent controls stored in the database associated with a currently executed control, identifies a control in which a product is a largest product of the weighting factor and the calculated likelihood.

In the same field of speech command, Kawasaki teaches that the speech recognition means specifies word candidates and calculates a likelihood of each candidate (Col 4 line 16, recognition probability determined.),

That the specifying means specifies based on the likelihoods (final recognition determined based on recognition probability and weighting factor; Col 4 lines 14-17)

That the database stores weighting factors (figure 10, weights are stored),

And that the process execution means uses the weighting factors (final recognition determined based on recognition probability and weighting factor; Col 4 lines 14-17.)

wherein the process execution means, among the subsequent controls stored in the database associated with a currently executed control, identifies a control in which a product is a largest product of the weighting factor and the calculated likelihood (final recognition determined based on product of recognition probability and weighting factor; Col 4 lines 14-17).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the likelihoods and weightings as taught by Kawasaki in the system of Funk and Kennewick in order to further improve speech recognition performance (Kawisaki Col 1 lines 46-50.).

4.   Consider claim 4, Funk and Kennewick teach the device control device according to claim 1. Kennewick further teaches that the specifying means holds information which associates words with one or more categories, and specifies a content of the speech uttered by the utterer based on a category in which the words specified by the speech recognition means are classified (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context.).

5.   Consider claim 5, Funk and Kennewick teach the device control device according to claim 1. Kennewick further teaches the specifying means holds correlation information which associates words of different meanings or different categories with each process of the process execution means, and specifies a content of the speech uttered by the utterer based on a combination of those words or categories which are specified by the speech recognition means and the correlation information (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context. This probability information represents how probable it is that word is associated with a context, and thus represents the correlation information between the word and the context.).

6.   Consider claim 6, Funk and Kennewick teach the device control device according to claim 1. Kennewick further teaches wherein the specifying means holds information which associates words with one or more categories, and specifies a content of the speech uttered by the utterer based on a category in which a plurality of words specified by the speech recognition means are commonly classified (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context. This probability represents how commonly the word is associated with a context).

7.   Consider claim 7, Funk and Kennewick teach the device control device according to claim 1, wherein the specifying means holds a plurality of words assigned to respective processes of the process execution means (Funk, 0019-0020, keywords are associated with various commands), and performs a corresponding process when at least one of the words specified by the speech recognition means is a word assigned to the process (Funk, 00190-0020, commands are executed based on received keywords.).

8.   Consider claim 8, the current combination of Funk and Kennewick teach the device control device according to claim 1, but does not specifically teach when a

meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression.

However, Kennewick further teaches teach when a meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression (00161, system can question the user to verify question and allow them to rephrase to remove ambiguity.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to allow a user to clarify a question or a command as further taught by Kennewick, in the system of Funk and Kennewick in order to allow the system to insure an accurate response when the confidence level of a correct understanding is not high (Kennewick 0161).

9.   Consider claim 9, Funk and Kennewick teaches the device control device according to claim 1, further comprising information acquisition means which acquires information from an external device (Funk, 0019 and 0026, system may access information such as stock reports and weather from a voice portal server), and wherein the specifying means selects an output content to be output based on the information acquired by the information acquisition means (Funk, 0019, keyword command may also be used to access information from information accessing device either through text or audible format.).

10.   Consider claim 10, Funk teaches a device control device according to claim 1

further comprising:

information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (, 0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

11.   Consider claim 19, Funk and Kennewick teaches the device control device

according to claim 10:

Wherein process specifying means specifies a process to be performed based

on the specified content of the uttered speech (Funk paragraphs 0019-0020, verbal

command keywords result is the mobile unit performing different operations, such as

retrieving information or controlling radio functions).

12.   Consider claim 29, Funk teaches the device control device according to claim 20,

wherein the process execution means includes means which, when the process

specified as a process to be performed is a process of presenting information externally

received to the utterer, performs the presentation by generating a speech which reads

out the information (0019, information may be read out to a user in an audible format.

0031 provides an example of the spoken dialog)

13.   Consider claim 31, Funk teaches an on-vehicle control device according to claim

1 so constructed as to be mountable on a vehicle having an external on-vehicle device

mounted thereon (abstract, on board device, figure 6, control screen 25)

        Wherein the process execution means specifies a content of control to be

performed on the on-vehicle device to be a control target based on the specified content

of the uttered speech, and performs the specified control (paragraphs 0019-0020,

verbal command keywords result is the mobile unit performing different operations, such

as retrieving information or controlling radio functions).

14.   Consider claim 39, Funk teaches The control device according to claim 31,

further comprising:

        information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired by the information acquisition means (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

15.   Consider claim 40, Funk teaches the device control device of claim 1 incorporated in a navigation device so constructed to be mountable on a vehicle (abstract, figure 5 unit 25) comprising:

Wherein the process execution means specifies a navigation process to be performed based on the specified content of the uttered speech, and performs the specified navigation process (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, navigation control functions).

16.   Consider claim 48, Funk teaches The device control device according to claim 40 further (abstract, on board device, figure 6, control screen 25) comprising:

information acquisition means which acquires information via predetermined communication means (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process execution means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

17.   Consider claim 49, Funk teaches the device control device according to claim 1

incorporated in an audio device (abstract, voice communicator) comprising:

wherein the process execution means specifies a content of a speech process to

be performed based on the specified content of the uttered speech, and performs the

specified speech process, or controls an external device in such a way as to cause the

external device to perform the specified speech process (paragraphs 0019-0020, verbal

command keywords result is the mobile unit performing different operations, including

retrieving information, which may be presented in audible form through speech. Also

see 0031 for an example of a speech dialog).

18.   Consider claim 57, Funk teaches The device control device according to claim 49

further (abstract, voice communicator) comprising:

information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

19.   Consider claim 58, Funk teaches a device control method (abstract) comprising:

performing, in a computer (0018-19):

speech recognition step of acquiring speech data representing a speech and

specifies words represented by the speech by performing speech recognition on the

speech data (paragraph 0018, speech recognition is provided for command and

control); and

process execution step of specifying a content of control to be performed on an

external device to be a control target based on the specified content, and performs the

control (paragraphs 0019-0020, verbal command keywords result is the mobile unit

performing different operations, such as retrieving information or controlling radio functions).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means;

A database which stores preceding controls and subsequent controls, each of which is associated with one another;

And the processing means performs control based on a currently executed control.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

A database which stores preceding controls and subsequent controls, each of which is associated with one another (0143, system stores user profile data which includes history of commands and queries and dialog history 0160. This constitutes preceding controls. These are used to provide context to a current command and are therefore associated with them (0161));

And the processing means performs control based on a currently executed control (commands to be executed are determined based on context information 0161).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

Funk and Kennewick do not specifically teach that the speech recognition means

specifies word candidates and calculates a likelihood of each candidate,

That the specifying step specifies based on the likelihoods

That the database stores weighting factors,

And that the process execution step uses the weighting factors, and

wherein the process execution step, among the subsequent controls stored in the

database associated with a currently executed control, identifies a control in which a

product is a largest product of the weighting factor and the calculated likelihood.

In the same field of speech command, Kawasaki teaches that the speech

recognition step specifies word candidates and calculates a likelihood of each candidate

(Col 4 line 16, recognition probability determined.),

That the specifying step specifies based on the likelihoods (final recognition

determined based on recognition probability and weighting factor; Col 4 lines 14-17)

That the database stores weighting factors (figure 10, weights are stored),

And that the process execution step uses the weighting factors (final recognition

determined based on recognition probability and weighting factor; Col 4 lines 14-17.)

wherein the process execution step, among the subsequent controls stored in the

database associated with a currently executed control, identifies a control in which a

product is a largest product of the weighting factor and the calculated likelihood (final

recognition determined based on product of recognition probability and weighting factor;

Col 4 lines 14-17).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the likelihoods and weightings as taught by Kawasaki in the

system of Funk and Kennewick in order to further improve speech recognition

performance (Kawisaki Col 1 lines 46-50.).

20.   Consider claim 59, Funk teaches the device control method according to claim

58 further (abstract) comprising:

an information acquisition step of acquiring information via predetermined

communication device (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputting a speech based on the information acquired

by the information acquisition step (0019, stock and weather information may be output

to the driver in an audible format, which would be speech),

whereby when the control specified by the process execution step is to output

information acquired by the information acquisition step, the speech output step outputs

a speech based on the information (, 0019, keyword command may be used to access

information from information accessing device either through text or audible format.

21.   Consider claim 61, Funk teaches The device control method according to claim

10, Wherein the process execution means specifies a navigation process to be

performed based on the specified content of the uttered speech (paragraphs 0019-

0020, verbal command keywords result is the mobile unit performing different

operations, navigation control functions).

22.   Consider claim 64, Funk teaches The device control mthold according to claim

58 for controlling an on vehicle device mounted on a vehicle (abstract, on board device,

figure 6, control screen 25)

        wherein the a process execution step of specifies a content of control to be

performed on the on-vehicle device to be a control target based on the specified

content, and performs the specified control (paragraphs 0019-0020, verbal command

keywords result is the mobile unit performing different operations, such as retrieving

information or controlling radio functions).

23.   Consider claim 65, Funk teaches The device control method according to claim

64 further (abstract, on board device, figure 6, control screen 25) comprising:

        an information acquisition step of acquiring information via predetermined

communication device (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputting a speech based on the information acquired

by the information acquisition step (0019, stock and weather information may be output

to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying steps is to output

information acquired by the information acquisition step, the speech output step outputs

a speech based on the information (0019, keyword command may be used to access

information from information accessing device either through text or audible format.

0031 provides an example of the spoken dialog).

24.   Consider claim 66, Funk teaches The device control method of claim 58 for

controlling a navigation mounted on a vehicle(abstract, figure 5 unit 25) comprising:

Wherein the a process execution step of specifies a navigation process to be

performed based on the specified content of the uttered speech, and performs the

specified navigation process (paragraphs 0019-0020, verbal command keywords result

is the mobile unit performing different operations, navigation control functions).

25.   Consider claim 67, Funk teaches The device control method according to claim

66 further (abstract, on board device, figure 6, control screen 25) comprising:

an information acquisition step of acquiring information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputting a speech based on the information acquired

by the information acquisition step (0019, stock and weather information may be output

to the driver in an audible format, which would be speech),

whereby when the control specified by the process execution step is to output

information acquired by the information acquisition step, the speech output step outputs

a speech based on the information (0019, keyword command may be used to access

information from information accessing device either through text or audible format.

0031 provides an example of the spoken dialog).

26.   Consider claim 68, Funk teaches The device control method of claim 58 for

controlling an audio device control method (abstract, voice communicator) ,:

Wherein the process execution step of specifies a content of a speech process to

be performed based on the specified content of the uttered speech, and performs the

speech process, or controls an audio device in such a way as to cause the audio device

to perform the specified speech process (paragraphs 0019-0020, verbal command

keywords result is the mobile unit performing different operations, including retrieving

information, which may be presented in audible form through speech. Also see 0031 for

an example of a speech dialog).

27.   Consider claim 69, Funk teaches the device control method of claim 68

further(abstract, voice communicator) comprising:

an information acquisition step of acquiring information via predetermined

communication device (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputs a speech based on the information acquired by

the information acquisition step (0019, stock and weather information may be output to

the driver in an audible format, which would be speech),

whereby when the control specified by the process executing step is to output

information acquired by the information acquisition step, the speech output step outputs

a speech based on the information (0019, keyword command may be used to access

information from information accessing device either through text or audible format.

0031 provides an example of the spoken dialog).

28.   Consider claim 70, Funk teaches a non-transitory recording medium storing a

program a program which allows a computer to function as (abstract; 0018 discussing

implementing using software):

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

process execution means which specifies a content of control to be performed on

an external device to be a control target based on the specified content, and performs

the control (paragraphs 0019-0020, verbal command keywords result is the mobile unit

performing different operations, such as retrieving information or controlling radio

functions).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means;

A database which stores preceding controls and subsequent controls, each of

which is associated with one another;

And the processing means performs control based on a currently executed

control.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

A database which stores preceding controls and subsequent controls, each of

which is associated with one another (0143, system stores user profile data which

includes history of commands and queries and dialog history 0160. This constitutes

preceding controls. These are used to provide context to a current command and are

therefore associated with them (0161));

And the processing means performs control based on a currently executed

control (commands to be executed are determined based on context information 0161).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

Funk and Kennewick do not specifically teach that the speech recognition means specifies word candidates and calculates a likelihood of each candidate,

That the specifying means specifies based on the likelihoods

That the database stores weighting factors,

And that the process execution means uses the weighting factors, and

wherein the process execution means, among the subsequent controls stored in the database associated with a currently executed control, identifies a control in which a product is a largest product of the weighting factor and the calculated likelihood.

In the same field of speech command, Kawasaki teaches that the speech recognition means specifies word candidates and calculates a likelihood of each candidate (Col 4 line 16, recognition probability determined.),

That the specifying means specifies based on the likelihoods (final recognition determined based on recognition probability and weighting factor; Col 4 lines 14-17)

That the database stores weighting factors (figure 10, weights are stored),

And that the process execution means uses the weighting factors (final recognition determined based on recognition probability and weighting factor; Col 4 lines 14-17.)

wherein the process execution means, among the subsequent controls stored in the database associated with a currently executed control, identifies a control in which a product is a largest product of the weighting factor and the calculated likelihood (final recognition determined based on product of recognition probability and weighting factor; Col 4 lines 14-17).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the likelihoods and weightings as taught by Kawasaki in the system of Funk and Kennewick in order to further improve speech recognition performance (Kawisaki Col 1 lines 46-50.).

29.   Consider claim 71, Funk the non-transitory recording medium according to claim 70 further comprising a program causing the computer to function as:

information acquisition means which acquires information via predetermined communication means (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired by the information acquisition means (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (, 0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

30.   Consider claim 73, Funk teaches The non-transitory recording medium according

to claim 71,(abstract; 0018 discussing implementing using software) comprising:

     Wherein the process executing means specifies a process to be performed

based on the specified content of the uttered speech (paragraphs 0019-0020, verbal

command keywords result is the mobile unit performing different operations, such as

retrieving information or controlling radio functions);

31.   Consider claim 76, Funk teaches The non-transitory recording medium according

to claim 70, wherein the computer is incorporated in an on-vehicle control device so

constructed as to be mountable on a vehicle having an external on-vehicle device

mounted thereon (abstract on board device, figure 6, control screen 25; 0018 discussing

implementing using software) comprising:

     Wherein the process execution means which specifies a content of control to be

performed on the on-vehicle device to be a control target based on the specified content

of the uttered speech, and performs the control (paragraphs 0019-0020, verbal

command keywords result is the mobile unit performing different operations, such as

retrieving information or controlling radio functions).

Consider claim 77, Funk teaches the non-transitory recording medium according to claim 76 further comprising a program causing the computer to function as (abstract on board device, figure 6, control screen 25; 0018 discussing implementing using software),

information acquisition means which acquires information via predetermined communication means (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired by the information acquisition means (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process execution means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

32.   Consider claim 78, Funk teaches The non-transitory recording medium according to claim 70, wherein the computer is incorporated in a navigation device so constructed to be mountable on a vehicle (abstract, figure 5 unit 25; 0018 discussing implementing using software)

Wherein the process execution means specifies a navigation process to be performed based on the specified content of the uttered speech, and performs the

specified navigation process (paragraphs 0019-0020, verbal command keywords result

is the mobile unit performing different operations, navigation control functions).

33.   Consider claim 79, Funk teaches The non-transitory recording medium according

to claim 78 further comprising a program causing the computer to function as (abstract,

figure 5 unit 25; 0018 discussing implementing using software):

        information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

        speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

        whereby when the control specified by the process execution means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

34.   Consider claim 80, Funk teaches non-transitory recording medium according to

claim 70 (abstract, voice communicator; 0018 discussing implementing using software)

        Wherein the process execution means specifies a content of a speech process to

be performed based on the specified content of the uttered speech, and performs the

specified speech process, or controls an external device in such a way as to cause the

external device to perform the specified speech process (paragraphs 0019-0020, verbal

command keywords result is the mobile unit performing different operations, including

retrieving information, which may be presented in audible form through speech. Also

see 0031 for an example of a speech dialog).

35.   Consider claim 81, Funk teaches The non-transitory recording medium according

to claim 80 further comprising a program causing the computer to function as (abstract,

voice communicator; 0018 discussing implementing using software):

        information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

        speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

        whereby when the control specified by the process execution means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

36.   Claims 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Funk and Kennewick and Fukada as applied to claims 1, 11, 20, 31, 40, and 49 above,

and further in view of Potter (US Patent 5,729,659).

37.   Consider claim 2, Funk and Kennewick and Fukada teach the device control

device according to claim 1, but does not specifically teach the speech recognition

means includes speech part specifying means which specifies a part of speech of the

specified words, and

        the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech.

        In the same field of speech control, Potter teaches speech recognition means

includes speech part specifying means which specifies a part of speech of the specified

words (column 13 line 45-collum 14 line 20, each word in an input is assigned a part of

speech, and context information is generated), and

        the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech (column 13 lines 35-45 show how Part of

Speech information is used to help determine content of an input. Because every word

is assigned part of speech, only those words assigned are used to specify context, even

those every word may be used to specify context).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to determine Part of Speech information as taught by Potter in the

system of Funk and Kennewick and Fukada in order to allow the system to determine

the meaning of each word, which may very depending on the part of speech, as some

words may have multiple parts of speech depending on usage (Potter column 13 lines

45-55).

Consider claim 3, Funk, Kennewick, Fukada and Potter teach the device control device

according to claim 2, wherein the specifying means discriminates whether or not a

combination of a plurality of words in the words specified by the speech recognition

means which is specified as a predetermined part of speech (Potter column 13 lines

35-45 show how Part of Speech information is used to help determine content of an

input. Because every word is assigned part of speech, only those words assigned are

used to specify context, even those every word may be used to specify context) meets a

predetermined condition (Kennewick, 0160-0161, possible context are scored, and the

most likely is determined. In this case, a context being the most likely candidate is the

predetermined condition for its output.), and specifies a content of the speech uttered by

the utterer based on a discrimination result (Kennewick, 0160-0161, possible context

are scored, and the most likely is determined. In this case, a context being the most

likely candidate is the predetermined condition for its output).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS C. GODBOLD whose telephone number is (571)270-1451. The examiner can normally be reached on Monday-Thursday 7:00am-4:30pm Friday 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Douglas C Godbold/
Examiner, Art Unit 2626